

**Draft Policy Option #TLU-7: Standards and Enforcement for Biofuels**

*Option 3.3.5 from the Policy Matrix.*

1. Policy Description:

- a. Lay description of proposed policy action: Develop and enforce a national standard for neat biodiesel (B100) and biodiesel blends. For biodiesel blends, the standards must include the conventional diesel portion of the blend. Develop and enforce a national standard for ethanol blends. The base gasoline for ethanol blends must meet the standards for gasoline sold in that area. In these standards, the biodiesel and ethanol should be treated as motor fuels, not additives. Enforcement of the standard should be designed to ensure that fuel taxes are being paid, blenders are registered with the State, and that certain exemptions would be acceptable (e.g., a school district blending biodiesel for use in its own school buses and not for outside sale).
- b. Policy Design Parameters:
  - i. Implementation level(s) beyond BAU
  - ii. Timing of implementation: Standards should be in place within two years (by end of 2008) to support successful implementation of other fuel policies.
  - iii. Implementing parties: AZDWM, ADOT, ADEQ, local jurisdictions, school districts
  - iv. Other
- c. Implementation Mechanism(s): Indicate which mechanisms are to be used, and describe the specific approach that is proposed
  - i. Information and education: Information and education will be used to disseminate information to industry and public
  - ii. Technical assistance
  - iii. Funding mechanisms and or incentives
  - iv. Voluntary and or negotiated agreements
  - v. Codes and standards: Support the provisions of HB2590: HB2590 is the E85 bill. The current bill does several things. First it adopts ASTM D5798-99 as the standards for E85. It sets standards for the equipment that will be dispensing E85 to ensure compatibility with the corrosive nature of E85. It establishes reporting requirements that will track product quality and amount of E85 produced. Finally, it requires that the gasoline portion of the E85 must be Cleaner Burning Gasoline in the CBG Covered Area. This is a consistent approach with how EPA deals with E85 in RFG areas.

Currently under A.R.S. 41-2083(K) through (N), the Department of Weights and Measures regulates the quality of biodiesel. The current law requires that biodiesel must meet the specifications in ASTM D6751 and that the diesel portion of the biodiesel must meet ASTM D975. This should help protect the consumer. Again, as in the proposed legislation, the current law requires reporting to track volumes and help ensure the quality of the product.

- vi. Enforcement: Increased funding and resources for enforcement. Currently, the Department, under A.R.S. 41-266, has the authority to enter a facility, take samples, seize evidence, and take product off sale if it is found not to conform to State standards. Our inspectors currently inspect fueling facilities throughout the state and check fuel quality and compliance with our regulations. These powers and duties are also codified in the department rules under R20-2-104.
- vii. Market based mechanisms
- viii. Pilots and demos
- ix. Research and development
- x. Reporting
- xi. Registry
- xii. Other?

2. BAU Policies/Programs, if applicable:

- a. Description of policy/program #1: Biodiesel and any blends of biodiesel sold in Arizona must meet the ASTM specification D6751 and the diesel portion of the biodiesel must also meet the ASTM D975 specifications. Blenders of biodiesel must submit monthly reports on the percentage of biodiesel in the final blend as well as verify the quality of biodiesel to the Director of the Department of Weights and Measures. A person who dispenses biodiesel must label the dispenser of the volume percentage of biodiesel in the final product. (Reference [Arizona Revised Statutes](#) 41-2083)
- b. Description of policy/program #2
- c. Etc.

3. Types(s) of GHG Benefit(s): An E85 program, with E85 used in vehicles designed for E85 fuel and reduce GHG emissions by 20% with corn-based E85 and as much as 65% with cellulose E85 (“An Update of Energy and Greenhouse Gas Emission Impacts of Fuel Ethanol,” Argonne National Laboratory, February 2005). Biodiesel reduces net lifecycle CO<sub>2</sub> emissions by 78% compared to petroleum diesel. B20 reduces net lifecycle CO<sub>2</sub> emissions by 16% (Sheehan et al. May 1998. *A Life Cycle Inventory of Biodiesel and Petroleum Diesel for Use in an Urban Bus.*) Benefits may differ for older trucks versus those meeting 2007 emission standards. The effect of biodiesel on new engine standards, and with low sulfur diesel is questionable.
4. Types of Ancillary Benefits and or Costs, if applicable:
  - a. Reduction in HAP as a result of dilution of the gasoline portion of the E85 and the use of cleaner burning Ethanol.
  - b. Reduction in the dependence on foreign oil as a result of the use of domestically grown product to produce fuels like E85 and Biodiesel.
  - c. Energy balance for production needs to be worked in here.
  - d. BTU equivalence between both type of fuels and additional cost to the consumer for the use of E85.
  - e. Cost of compliance.
  - f. Biodiesel can reduce emissions of HC, PM, and CO in older vehicles (emission reduction potential reduced with new technology engines equipped with catalysts and diesel particulate filters). EPA has reported that the use B20 biodiesel can lead to a 21% reduction in HC, 11% reduction in CO, and a 10% reduction in PM. Toxic emission reductions can also be significant. However, biodiesel can lead to increased exhaust emissions of NO<sub>x</sub> and some air toxics, depending on feedstock and blend level. EPA reports a 2% increase in NO<sub>x</sub> emissions for B20 blends. Effects on newer diesel vehicles are likely to be different.
  - g. Biodiesel reduces energy content which reduces fuel economy. 0.9-2.1% reduction for B20 and 4.6-10.6% reduction for B100.
  - h. Biodiesel can lead to operational problems, particularly at low temperatures, but as a benefit, increases the lubricity of diesel fuel.
  - i. E85 can reduce emissions of VOC, CO, PM, and NO<sub>x</sub>. However, E85 also leads to reduced fuel economy.
5. Estimated GHG Savings and Costs Per MMTCO<sub>2</sub>e:

- a. Summary Table of:
    - i. GHG potential in 2010, 2020
    - ii. Net Cost per MMTCO<sub>2</sub>e in 2010, 2020
  - b. Insert Excel Worksheet showing summary GHG reduction potential and net cost
6. Data Sources, Methods and Assumptions:
  - a. Data Sources
  - b. Quantification Methods
  - c. Key Assumptions
7. Key Uncertainties if applicable:
  - a. Benefits
  - b. Costs
8. Description of Ancillary Benefits and Costs, if applicable:
  - a. Description of issue #1
  - b. Description issue #2
  - c. Etc.
9. Description of Feasibility Issues, if applicable:
  - a. Description of issue #1
  - b. Description of issue #2
  - c. Etc.
10. Status of Group Approval:
  - a. Pending
  - b. Completed
11. Level of Group Support:
  - a. Unanimous Consent

- b. Supermajority
- c. Majority
- d. Minority

12. Barriers to consensus, if applicable (less than unanimous consent):

- a. Description of barrier #1
- b. Description of barrier #2
- c. Etc.